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XXIII.—*The Birds of Jhang District, S.W. Punjab.*
Part II. *Non-Passerine Birds.* By HUGH WHISTLER,
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Micropus affinis (Gray). (2 skins.)

A common and generally distributed species, met with throughout the year in varying numbers; one month it will not be seen at all, another time it is general and common, and at another time scarce and local; but such fluctuations are quite erratic, and are doubtless due not to migration, but to questions of the food-supply. It is a bird of towns and villages, breeding in the house-roofs and hawking above them, but I found a large colony of old nests in the small hills about Yakuwala.

Micropus melba (L.).

Two Alpine Swifts were seen hawking above the Civil lines on the evening of 25 August, 1919.

Caprimulgus europæus unwini Hume. (3 skins.)

Nightjars are scarce in the district; single birds of this species were shot at Kot Lakhiana on 27 September, 1918, at Jhang on 3 May, 1919, and at Chund on 20 August, 1919.

* Continued from p. 309. For map, see Text-figure 9, p. 260.

Two other birds seen but not obtained at Muradawala on 4 November, 1917, and at Winoka on 1 August, 1919, were probably also of this species. It is doubtless only a passage migrant.

Caprimulgus monticola Frankl. (1 skin.)

A female was shot in the borrow-pits that border the railway at Chund on 20 August, 1919.

Merops persicus persicus Pallas. (11 skins.)

The Blue-checked Bee-eater is a very common summer visitor to the district; it was first observed on 8 May, 1918, and on 24 April, 1919, and from then onwards remained common till the end of September. A few birds remain into October, the latest record being 13 October, 1918. In both years a large flock roosted in the trees of the Dak Bungalow at Jhang, and females shot from this flock in the latter half of May had large eggs in the ovaries, but in spite of much endeavour I was unable to locate any nests. The number of these roosting birds, however, dwindled greatly by the end of the month, when doubtless most birds slept in their nest-holes.

(It is difficult to distinguish *M. persicus* and *M. philippinus* in the field, but although the latter species may appear in the district, all the large Bee-eaters which I was able to identify satisfactorily belonged to *M. persicus*.)

Merops orientalis beludschicus Neum. (11 skins.)

The status of this Bee-eater is interesting. During the winter months it is to be found in small isolated colonies which, in some cases, certainly occupy the same locality year after year. About the middle of February large numbers of migrants appear on passage, and remain about during March and the earlier days of April. After they have passed on, the species is found generally distributed and breeding, until about June there is apparent a great increase in its numbers, due to the fledging of the young birds. These numbers rather obscure the situation, but apparently an autumn passage

arrives in August and vanishes again in September, leaving only the few colonies which remain throughout the winter. The species is gregarious at roost. I have observed a small party feeding in company with a flock of Rosy Pastors; these latter were feeding along some ground covered with "Lana" scrub, while the Bee-eaters perching on the ground or the "Lana" moved with the Pastors, and caught in the air those grasshoppers and insects which escaped by flight from the blundering efforts of the larger birds.

A very beautiful lutino variety obtained by me at Jhang on 9 June, 1919, has been described in the *Journal Bombay N. H. S.* vol. xxvi. p. 844.

***Upupa epops epops* L.**

(6 skins.)

The European Hoopoe appears in the district on the autumn migration about the middle of July and becomes abundant in August, its numbers reaching their greatest height in September. The majority of these birds pass on by the end of the month, but the species remains fairly common during the winter until about February. A few individuals were seen in March and April, but none in May or June, and but few, if any, pairs can remain to breed in the district.

***Coracias garrulus semenowi* Loudon & Tschusi.** (12 skins.)

This form of Roller appears in considerable numbers on the autumn migration, and may then be met in small flights of some half-dozen individuals or singly. It is found anywhere in open country, but is most partial to the wide plains that form the riverain of the Chenab River, where it perches on isolated Kikur-bushes or on the "Uck" plants that are typical features of this ground. The favourite food is a large, coarse, highly-coloured grasshopper which is found on the "Uck," but whose name I have not ascertained. The earliest date on which I have seen it is 25 July, 1919, and the latest date is 25 September, 1918. Adults and immature birds arrive in equal numbers, and the former are then undergoing complete moult.

Coracias benghalensis benghalensis (L.). (4 skins.)

The Indian Roller is a generally distributed resident in small numbers, augmented in summer by an immigration of birds which arrive to breed in the district. As is so frequently the case under such circumstances, I was unable satisfactorily to fix the date of arrival and departure of these immigrants, but pairing begins about the middle of February and eggs were taken in May. To some extent Rollers are gregarious at roost.

Ceryle rudis leucomelanura Reichenb. (2 skins.)

A resident species, and common all along the Jhelum and Chenab rivers, but seldom met with away from them.

Alcedo ispida pallasii Reichenb. (1 skin.)

Observed only as follows:—

1918. 19 February. One near Chund bridge.

1918. 19 December. One at Nurpur Escape.

1919. 20 August. An adult female, shot near Chund
bridge.

1920. 21 January. One at Nurpur Escape.

The single specimen obtained agrees well with other examples of this race in my collection from Kashmir and the subalpine Punjab.

Halcyon smyrnensis smyrnensis (L.). (3 skins.)

A somewhat scarce resident, but inclined to move about rather within the district.

Dryobates scindianus (Horsf. & Moore). (1 skin.)

A pair seen about the canal escape at Asabha on 25 and 26 September, 1918, were the only Pied Woodpeckers observed actually within the boundaries of the district; two or three were, however, seen at Sang jheel (just over the border in the Multan District) on 25 December of the same year.

Liopicus mahrattensis (Lath.).

A resident in small numbers and generally distributed throughout the district.

Brachypternus aurantius dilutus Blyth. (2 skins.)

A resident but very sparingly distributed species, only met with here and there, and nowhere common.

Jynx torquilla L. (3 skins.)

The Wryneck is a fairly common winter visitor from November until March. The following records of single birds observed point to the existence also of a spring and autumn passage—viz., 1918, 14 and 20 September; 1919, 3 April, 27 August.

Cuculus canorus L.

Observed on the spring migration in 1918 at Jhang on 10 and 16 May, and in 1919 at Chund bridge on 7 April. One was seen on the autumn migration of 1919 at Chiniot on 6 August.

Coccyzus jacobinus (Bodd.). (1 skin.)

The Pied Crested Cuckoo is a late summer visitor to the district. Comparatively few were seen in 1918, but the species was common in 1919, the earliest and latest dates for it being 3 June and 17 September. Newly-fledged nestlings, attended by *Crateropus terricolor*, were seen on 1 August and 17 September. The former would have fallen a victim to some Crows had I not interfered.

Eudynamis orientalis honorata (L.). (1 skin.)

To one accustomed to the abundance of the Koel as a summer visitor in most districts of the Punjab, its scarcity at Jhang was most surprising. In 1918 a male on 16 September was the only one recorded. In 1919 a pair or two were frequenting the Civil lines between 5 May and 18 July, and a single male was seen as late as 26 October. None were seen away from headquarters.

Centropus sinensis maximus (Steph.). (1 skin.)

A resident, generally distributed and fairly common. Eggs were taken in July and August.

Palæornis eupatria nepalensis (Hodgs.). (2 skins.)

The Alexandrine Parrakeet is an abundant resident, generally distributed and noticeable everywhere from its marked habit of "fighting" to roost. It is particularly partial to the rest-house gardens along the canals, breeding in the roofs of the bungalows and roosting in large numbers in the trees around them. Eggs are laid in February and March, the usual clutch consisting of three to five eggs. Sixteen eggs yield the following measurements:—Length 34–38 mm., breadth 27–31 mm.; average 35.2×28.8 mm.

Palæornis torquatus (Bodd.). (3 skins.)

Generally distributed, resident, and even more abundant than the last species, whose evening flight and roosting-places it shares, although the two species do not combine into joint flocks. Eggs are laid in March.

Palæornis cyanocephalus cyanocephalus (L.).

I saw a single male of this species amongst a number of *P. nepalensis* and *P. torquatus* collected to roost in the garden of the canal rest-house at Muradwala in November 1917.

Tyto alba javanica (Gm.). (1 skin.)

A single pair of Barn-Owls were flushed from a hole in a huge Bhor-tree behind the rest-house at Chund on 19 February, 1918, and the climber reported a single egg in the hole. I was unable to visit the place again personally, but an orderly whom I sent to secure the clutch on 3 March brought back one of the parent birds and reported that there were no eggs in the hole.

Bubo benghalensis (Frankl.).

Only occurs in the district on the small hills near Yakuwala, where a single bird was seen on 23 February, 1919, and a pair on 2 August, 1919. One of these latter, when disturbed, sat on a rock in the open, bowing and squawking at me. I found its eyrie in a hollow between some rocks, and the pellets that lay around were found to contain many remains of *Tatera indica*, the Indian Gerbille.

Bubo coromandus (Lath.). (1 pullus.)

A sparsely distributed resident. An addled egg and a nestling in down were taken at Kadirpur on 27 January, 1920, from a nest at the top of a huge Kikur-tree, from which I had taken an egg of *Otogyys calvus* on 14 November, 1918.

Asio otus otus (L.). (1 skin.)

A party of five or six Long-eared Owls were found resting in tamarisk bushes in the middle of a jheel at Massan on 20 December, 1917. Two were seen in a bush at Nurpur jheel on 19 December, 1918. A winter visitor only.

Asio flammeus Pontopp.

The Short-eared Owl is a winter visitor only and was observed as follows:—1917: 7 November, two at Ver; 6 December, one near Hir's tomb, sitting on the ground in the sun at 3 P.M. 1918: 22 March, one at Ghar Maharajah; 18 October, one near Hir's tomb.

Athene brama tarayensis (Hodgs.). (3 skins.)

A common and generally distributed resident. Lays in March.

Falco peregrinus calidus Lath.

During the winter months an occasional Peregrine is to be met within the riverain area or in the neighbourhood of any jheel where Duck are to be found; on more than one occasion my trained birds have been interfered with by such wild birds. My earliest and latest dates for the species are 7 November, 1917, and 19 March, 1918, but on 20 August, 1919, a native gentleman interested in falconry informed me that he himself had seen a Peregrine that morning; so there is probably an autumn passage also.

Falco peregrinus babylonicus Sel. (1 skin.)

The Shahin is the earliest of the larger Falcons to appear in the district. I have seen an adult female on 29 August, 1919, and an adult male on 14 September, 1918; and on

31 October, 1917, killed a very fine old female which had been seen about for several days and had given trouble to my trained birds at exercise in the mornings. My only record for November is a doubtful one. On 11 December, 1918, an immature female was netted—and afterwards trained—by my falconer. Two other records for December 1917 refer probably to the same bird as the November one, and were similarly not fully identified. One was reported by my falconer on 23 January, 1918. All the above records refer to Jhang-Maghiana. On 16 February, 1918, I saw a female at Kot Wasawa.

Falco cherrug cherrug Gray.

The Saker Falcon appears to be but a scarce winter visitor to the district, as I only personally saw one in a wild state, which came up, attracted by the exercising of my trained Falcons, to the lure and circled low over our heads on 14 December, 1918, at Massan. Capt. C. B. Ticehurst was then with me. I saw two partly-manned Sakers which were said to have been caught near Sheikhan and Lalian respectively in February 1918 and January 1919, and my falconer reported seeing a wild bird at Wer on 5 November, 1917.

Falco jugger Gray.

(3 skins.)

A resident, and generally distributed in small numbers throughout the district, but by no means as common as in the plains of the south-east Punjab about Hissar.

I found in all six nests of this Falcon as follows :—

1918. 27 March. C/2 hard-set eggs; the nest was some 25 feet from the ground in a tamarisk-tree standing with a few other scattered trees on the plain near Shorkot city. The nest was probably an old Kite's nest—a bulky structure of sticks with a lining of dirty rubbish. Eggs 48.5×38.5 , 49.5×39.5 mm.
1918. 10 May. Three well-feathered young in an untidy, straggling nest placed some 18 feet from the ground in a Jhand-tree standing amongst wheat at Jhang.

1919. 22 March. C/3 hard-set eggs, taken at Mochiwala from a nest on a side bough of a Kikur-tree in cultivation near a canal—the same tree from which I took C/4 Raven's eggs on 4 February, 1918. Eggs 48×40.5 , 47.5×39.5 , 46×39.5 mm.
1919. 30 March. Three nestlings in down; the nest was a large, untidy structure about 20–25 feet from the ground on a main bough of a Jhand-tree. The tree was about 50 yards from the railway at Chund and about 100 yards from a rest-house.
1920. 4 March. C/3 incubated eggs, taken from a large and ancient-looking nest, probably originally that of a Neophron, in a large Kikur-tree standing in cultivation about 100 yards from a hut. Eggs 48.5×38 , 50.5×39.5 , 49×39 mm.
1920. 10 March. C/3 fresh eggs, taken from a large nest on a side bough of a Jhand-tree standing in some sand-hills near Jhang; from this nest I took a Neophron's egg on 10 May, 1918. Eggs 51×39 , 51×38.5 , 52×39.5 mm.

Falco subbuteo L.

(1 skin.)

I have seen undoubted examples of the Hobby as follows:—
 6 August, 1919: one at Kot Wassawa; 26 September, 1918: one shot at Asabha; 11 December, 1917: one at Jhang; 2 March, 1919: one at Jhang. My other records for October, March, and November refer to birds which were not identified beyond possibility of error.

Falco æsalon pallidus (Suschk.).

(2 skins.)

I have the following records for the Merlin in Jhang District:—

1917. 1 November. One seen by me near Sheikh Chur.

1918. 5 April. Imm. ♀, shot on plain behind the Cemetery at Jhang.

1920. 12 January. Ad. ♂, shot on the same plain; a beautiful *pallidus* ♂.

1920. 13 January. Another seen at the same place.

Falco chicquera Daud. (1 skin.)

A resident and generally distributed species in small numbers. On one occasion I saw a pair chasing a Snipe, and another bird was seen hawking at bats at dusk.

Falco tinnunculus tinnunculus L. (3 skins.)

The Kestrel is a common winter visitor to the district, arriving early with the autumn passage and remaining on until well into the spring passage with no apparent change in its numbers. The first dates for its appearance were: 9 September, 1918; 24 August, 1919. It was last seen: 13 April, 1918; 6 April, 1919.

Aquila heliaca helica Sav. (1 skin.)

The Imperial Eagle is doubtless a not uncommon winter visitor to the district, as many must escape notice among the multitudes of *A. r. vindhiana*. I have six records for December and January of the type represented by the only skin preserved—that is to say, a large dark chocolate bird with a bright golden crown. Only one of these had white feathers on the scapulars.

[**Aquila nipalensis nipalensis** Hodgs.]

Some of the larger Eagles observed during the winter months were doubtless Steppe Eagles, but no specimens were actually procured. On 24 February, 1920, I witnessed a performance by a larger Eagle—probably of this species or the last. I was out riding in the evening on the plain near Hir's tomb, and seeing the Eagle standing on the ground, rode towards it. It immediately lay down on its breast with the head up (after the attitude in which Neophrons rest on the ground), and remained squatting like that while I rode round it twice at a distance of about 10 to 15 yards, while it turned its head to watch me. I then deliberately put it up, and after flying a short distance it settled on the ground, walked up to a small desert plant and squatted beside it after the manner of a Bustard, but in the attitude already described. I flushed the bird once or twice again and could see no sign

that it was injured or unwell, but it was reluctant to go far, probably intending to sleep on the plain there.

***Aquila rapax vindhiana* Frankl. (4 skins.)**

The Indian Tawny Eagle breeds very commonly in the district from December until February, building its nest in nearly all cases on Kikur-trees standing in or near cultivation. It is a resident species.

Fourteen eggs yield the following measurements:—Length 63–72·5 mm., breadth 49·5–54; average 67·2 × 52·4 mm.

***Hieraaëtus fasciatus fasciatus* (Vieill.).**

A pair of Bonelli's Eagles were observed every winter in the neighbourhood of the Massan jheels, where they were doubtless resident although I was quite unable to find the nest. An occasional bird seen in Jhang city on the one side and at Kadirpur on the other may have been one of the above pair, as they doubtless wander some distance from the eyrie, and the species was not otherwise seen in the district.

***Buteo ferox ferox* (Gm.). (1 skin.)**

The Long-legged Buzzard is a winter visitor to the district, common from November until the end of February. The earliest and latest dates on which it was seen were 23 October, 1917, and 18 March, 1918. During the winter of 1919–1920 it was unusually scarce, and I only saw three individuals in all. The majority are of the pale form, but a very fine example of the black phase was shot on 8 November, 1917 (S. R. No. 2034), and one or two other examples of it were seen.

***Circus pygargus* (L.). (2 skins.)**

On the spring migration of 1918 several of these Harriers were noted between 30 March and 12 April in the neighbourhood of Jhang, all on the bare plain that stretches about Hir's tomb. On one evening a party of three and on another evening a party of four were seen sitting on the ground, very loath to fly, as if they were tired migrants. A pair were secured and preserved; it is interesting that the male had powder-down patches but not the female.

Circus cyaneus (L.).

A grey Harrier with a bluish breast, seen at Massanjheel on 20 and 21 November, 1917, must have been of this species.

Circus æruginosus æruginosus (L.). (1 skin.)

A common winter visitor, first appearing in September but not becoming common until November; it remains until the end of March.

Circus macrurus (Gm.).

The Pale Harrier is a common passage migrant through the district in September and October and again in March and April. A few individuals are to be met with during the winter months.

[Astur gentilis (L.).

On 27 December, 1917, at Kadirpur, my head falconer reported that he had seen a Goshawk that morning while out exercising my Hawks. The statement was probably correct: at any rate, his identification would be satisfactory though his veracity might not be so. It is probable that the bird was an escape, as a good many trained Goshawks are kept in this part of the Punjab, and on one occasion an escaped Goshawk was brought in to me by some villagers when I had lost a Peregrine and had advertised the fact.]

Astur badius dussumieri (Temm.). (1 skin.)

The Shikra is a common and generally distributed resident, and individual pairs are very constant to their own territories. Eggs are laid in April.

Accipiter nisus (L.).

A winter visitor in small numbers, apparently from about October until March, with signs of a spring and autumn passage in April and August. Unfortunately, my notes on the species are not satisfactory, as it is often difficult to distinguish the Shikra from the Sparrow-Hawk in flight. No specimen was procured, so the actual race occurring remains in doubt.

Milvus migrans govinda Sykes. (4 skins.)

An abundant and generally distributed resident. Breeds about February.

[**Milvus lineatus** (Gray).

A very large Kite with conspicuous wing-patches was seen by me at Ludha Mani on 19 September, 1919. The specimen was not obtained, but I have little hesitation in referring it to this species.]

Haliastur indus (Bodd.). (1 skin.)

Only observed on the autumn migration of 1918, when three or four, both adult and immature, were observed about the Jaura Canal works from 8-10 August, and an adult was seen at Chund bridge on 31 August.

Haliaëtus leucoryphus (Pall.).

Pairs of Pallas's Fishing Eagle are to be met with throughout the whole extent of the riverain area, and occasionally they visit the canals and escapes. It would appear to be a resident species, wholly or in part, although higher up the Jhelum River near the Himalayan foot-hills it was only a breeding visitor in winter (*cf.* Ibis, 1916, p. 91). A nest with three eggs, taken near Chund bridge on 12 December, 1919, has been described in 'Bird Notes,' 1920, p. 22.

Elanus cæruleus (Desf.).

Black-winged Kites were seen as follows :—

1918. 18 March : one at Dab Kalan ; 13 October :
one near Chund bridge.

1918. 27 July : one at Nurpur Escape.

Butastur teesa Frankl. (1 skin.)

A not uncommon resident, but probably also a summer immigrant. Nests were found in May.

Neophron percnopterus percnopterus (L.).

A common and resident species. There has been a certain amount of confusion regarding the distribution of the races

of this repulsive bird, owing to the natural hesitation of most observers to collect specimens. I accordingly took the trouble to shoot five adults in March and April from amongst the numerous nests examined; four of these were carefully sexed and measured (in millimetres), as follows:—

	♂.	♂.	♀.	♀.
Bill from front edge of cere to tip.	31·5	30	29	31
Gape to tip of bill	60	64	58	62
Depth of bill at front edge of cere.	—	14·5	14	—
Length of cere.....	31	29	29	36
Wing	462	483	463	476
Tail	238	238	242	247
Tarsus	88	87·5	86	86
Mid-toe without claw.....	62	65	70	68

Hartert gives the measurements of this Vulture as follows, without distinction of sex:—Wing 475–520, tail 255–280, tarsus 75–85, culmen from end of cere 31–35 mm. He notes that *N. p. ginginianus* differs from this race in the yellow bill and smaller size, especially of the foot and bill. Oates, on the other hand, emphasises the relative colour of the cere and cheeks in the two races.

Measurements are not always a satisfactory guide in such large birds, but I carefully recorded also the colour of the soft parts in the five birds shot. All had the bill clear horn-colour except one male in which it was dead horny-white, with a wedge-shaped blackish mark near the tip of the cutting-edge of the upper mandible. The cere and a patch of the facial skin extended to behind the eye and, including the front portion of cheeks, was a richer and deeper orange-yellow than the lemon-yellow tint of the remainder of the bare skin of the head and neck. The legs and feet were a dull pinky-whitish colour, the claws black.

Twelve nests were examined, six with two eggs or chicks, six with one; these were found on various dates between 31 March and 16 May. The nests were placed either in Jhand-trees or Banyan-trees.

Fourteen eggs yield the following measurements:—Length 59·5–69, breadth 47·5–52·5; average 63·9 × 50 mm.

Gyps fulvus (Habl.) (1 skin.)

Griffon-Vultures are to be met with occasionally during the winter months anywhere in the district, but their main stronghold is the small rocky hills near Yakkuwala, where they collect to rest and digest after a successful trip for food. I have seen them as early as 28 October, 1917, and as late as 4 March, 1918.

Ægyptius monachus (L.).

This magnificent Vulture occurs in very small numbers as a regular winter visitor; it arrives about the middle of November (earliest dates 17 November, 1917; 19 November, 1918; 21 December, 1919) and leaves in February (latest dates 20 February, 1918; 21 February, 1919; 29 February, 1920). It is usually seen singly or in couples, but on one occasion (15 February, 1918) I saw four together, apparently two adults and two immature birds.

Otogyps calvus (Scop.).

The King Vulture is found in small numbers throughout the district, and is probably a resident species; but I have no actual records of it for the months of June and July. A nest with one fresh egg was found on 14 November, 1918.

Pseudogyps bengalensis (Gm.).

Breeds freely from December to March in the neighbourhood of the river from Massan to the southern boundary of the district. During the summer it appears to become somewhat scarce, but this may be due rather to the difficulties of observation at that season than to the species being partly migratory.

Ciconia ciconia (L.).

The White Stork occurs as a winter visitor in small numbers, being found singly about cultivation or in the neighbourhood of jheels. Not observed in Shorkot Tehsil.

It arrives about November (earliest dates 10 November, 1917; 18 November, 1918) and leaves again about February (latest dates 15 February, 1918; 28 February, 1919). It

is noteworthy that a flock of some twelve to fifteen birds was seen at Kadirpur on 13 February, 1918 : these were doubtless birds resting on passage.

***Ciconia nigra* (L.).**

The Black Stork is a somewhat scarce winter visitor, and was observed as follows :—

1917. 25 December. Three at Pabbarwala.

1918. 16 December. Four at Massan.

1919. 10 December. Two at Massan.

Storks seen in the distance on 1 and 2 April, 1918, and 22 March, 1919, also appeared to belong to this species.

***Pseudotantalus leucocephalus* (Pennant).**

A party of about a dozen Pelican-Ibis, mostly in immature plumage, were seen at Nurpur Escape on 27 July, 1919.

***Dissura episcopus* (Bodd.).**

Only observed in the country on the right bank of the Chenab from Massan to Shah Jiwana. Here a few individuals were seen every year in the months of November to March. A nest containing four eggs was found near Pabbarwala on 25 December, 1917 (as recorded in the Journal Bombay N. H. S. xxv. 1918, p. 746).

***Xenorhynchus asiaticus* (Lath.).**

This handsome Stork is moderately common and appears to be a resident. In November 1918 a pair were frequenting a big, flat nest on the extreme summit of a half-dead Shisham-tree at the edge of a small pool near Shah Jiwana Mandi. When examined the nest was empty, and possibly it was only being used as a resting-place.

***Platalea leucorodia major* Temm. & Schleg.**

The status of this species is not very clear. In 1918 three individuals were seen at the canal escape at Asabha from 25 to 27 September. One of these was markedly larger and rosier than the others. I have a doubtful record for the

river on 30 November. In 1919 a flock was observed about the sand-banks of the river near Chund bridge from 11 May to 1 June; five were seen in the same place on 8 June, and single birds up till 14 June. Then in July and August a few birds were seen in the course of a tour of the riverain from Chund to Chiniot; and these were probably breeding, as one of a pair seen flying near Chiniot on 6 August was carrying a small branch. It is probably a summer visitor only.

***Plegadis falcinellus falcinellus* (L.).**

A single Glossy Ibis was seen at the Nurpur Escape on 27 February, 1919.

***Inocotis papillosus* (Temm.).**

The Black Ibis is resident and a not uncommon species in the district, although nowhere abundant. Although I never actually found any nests, I believe that it breeds in the riverain about July and August.

***Ardea cinerea* (L.).**

The Heron is a common and generally distributed winter visitor from October until March. In 1919 odd birds were seen on 14 and 29 July and also on 19 August; these would be either early migrants or casual summer stragglers.

***Ardea purpurea manillensis* Meyen. (1 skin.)**

The main strongholds of the Purple Heron are the huge reed-beds of the Nurpur Escape; here it is common in winter, and must, I think, breed there, as at a visit on 25 and 27 July, 1919, I saw several about, although a search for their nests was not successful. A few also occur in winter about the reedy channels of the Massan Ilaquah. The only other places in the district where I have met odd examples are Chund bridge (13 August, 1918, and 15 June, 1919) and the canal escape at Jaura (9 August, 1919).

***Egretta alba* (L.).**

Observed in winter in small numbers from November to February. An Egret seen on the river on 25 May, 1919, was apparently of this species.

Egretta garzetta garzetta (L.). (1 skin.)

Not uncommon and probably resident. Eggs were secured from a colony breeding in company with *Ardeola grayii* at Chund bridge in July 1919.

[**Egretta intermedia intermedia** (Wagl.).

One or two Egrets seen both in summer and winter, appeared somewhat intermediate in size between the last two species and may have been of this kind.]

Bubulcus ibis coromandus (Bodd.).

Identified on 18 March and 23 September, 1918, and on 15 June, 1919, but probably more common than these records imply. White Egrets are seen occasionally throughout the year, and circumstances do not allow of the specific identification of the majority seen.

Ardeola grayii (Sykes).

A resident in small numbers, which are greatly increased by an immigration of birds arriving about May; they breed in July and August, and depart probably in September.

[**Butorides javanicus** (Horsf.).

A small and dark Bittern seen at Asabha on 27 September, 1918, was probably an immature example of this species.]

Nycticorax nycticorax nycticorax (L.).

A few colonies of the Night Heron are to be found here and there in the district, as at Chund bridge, Mochiwala, Wer, and Jaura. It is a resident species.

Botaurus stellaris (L.).

A single Bittern was flushed on 7 and 8 December, 1919, from a small reed-bed at Massan.

Anser anser (L.).

Anser indicus (Lath.).

In November 1871 Hume passed down the Jhelum and Chenab rivers through Jhang District on his way to Sind (Stray Feathers, vol. i.). To anyone reading that account

one of the first points that will occur is the extreme abundance of Geese along this area, particularly of *Anser anser* (L.). Huge flocks were constantly seen, and specimens were obtained without difficulty. Now, in Jhang District, it is a very different story. The waters of the rivers, drained by the canals, have become but a mere shadow of their former selves in the winter months, and the numbers of Geese have greatly dwindled. A certain number still appear in winter, and frequent the sand-banks and feed in the neighbouring wheat-fields, but the flocks are small and few and far between. My notes show that they are with us from December to March, though these dates should probably be extended. Different dates for the two species are not satisfactorily indicated.

Casarca ferruginea (Pall.). (3 skins.)

A common winter visitor, usually found in pairs or small parties, but occasionally in flocks of as many as fifty individuals. It arrives in November (earliest dates 18 November, 1917; 12 November, 1918) and leaves about February, although I saw a pair on the Abdul Rahman jheel as late as 21 March, 1918.

Anas platyrhyncha platyrhyncha L. (1 skin.)

The Mallard is a winter visitor, and from November to January forms the vast majority of the Ducks in the district. They start to leave in February and are practically all gone by the middle of March.

Anas pœcilorhyncha pœcilorhyncha Forst. (5 skins.)

The Spot-bill Duck is nowhere very abundant, but parties of this species are to be met with among the other Ducks in the district during the winter months. I have only seen the species from November to March, but on occasion it certainly breeds in the district. On 20 December, 1917, when we were shooting the big Kharkan jheel, Capt. Ticehurst came across two Spot-bills which appeared absurdly tame, and on shooting one he found that it was a young bird of the year, unable to fly properly.

It is a confiding species, loath to leave its haunts, flying but a short way and lower than most Ducks, and continually circling round and endeavouring to return to the water it was disturbed from.

Anas crecca crecca L. (10 skins.)

The Teal shares with the Mallard the honour of being our most abundant Duck. It is one of the first to arrive, and I have seen it as early as 31 August, 1919. It remains common until the end of March and a few stay into April. My latest date for it is 7 April, 1919.

Anas querquedula L. (5 skins.)

The Garganey is only a spring and autumn passage migrant through the district, and is in consequence not found with the other Ducks on the jheels in winter. On the autumn migration I have only once met it, viz. a single Duck shot at Asabha Escape on 25 September, 1918. For the spring passage, when it is fairly common, my earliest and latest dates are 19 March, 1918, and 7 April, 1919.

Anas strepera L. (5 skins.)

The Gadwall is very abundant as a winter visitor from November until March. The latest date on which I have seen it is 21 March, 1918.

Anas penelope L. (4 skins.)

The Wigeon is a winter visitor in fair numbers, met with from December until March (latest date 19 March, 1918).

Anas acuta acuta L. (1 skin.)

A winter visitor in small numbers. My earliest and latest dates for the Pintail are 22 October, 1917, and 27 February, 1918. It is by far the shyest of the various Ducks and the first to desert a jheel that is being shot, so but few come into the bag.

Spatula clypeata (L.). (8 skins.)

The Shoveler is common as a winter visitor from November (earliest date 15 November, 1918) till the end of March. A few birds remain until April (latest date 10 April, 1919).

Netta rufina (Pall.). (2 skins.)

The Red-crested Pochard is by no means common, but several were met with in the month of December 1917 and 1918.

Nyroca ferina ferina (L.). (4 skins.)

Flocks of Pochard occur about the jheels from November till the end of March. A single bird was seen on the river on 7 April, 1919.

Nyroca nyroca nyroca (L.). (1 skin.)

A single White-eyed Duck was shot at Nurpur jheel on 19 December, 1918, by Capt. C. B. Ticehurst.

Nyroca fuligula (L.). (1 skin.)

Fair numbers of Tufted Duck appear on the jheels from November until about the middle of March. A pair was seen on the river Chenab on 7 April, 1919.

Mergus albellus L. (2 skins.)

Hume records (S. F. i. pp. 101, 265) that he saw a party of four Smews on the bank of the river Jhelum in Jhang District on 28 November, 1871, and secured a young male.

I have the following records:—

1917. 24 December. One shot near Pabbarwala.

1918. 19–20 December. A few at Nurpur jheel, including two adults Drakes, of which one was shot by Capt. C. B. Ticehurst.

1918. 25 December. A small party of seven or eight at Sang jheel.

1919. 19 January. Remains of a Duck brought in by my falconer, who said he had killed it with a Falcon at Chund bridge.

1919. 22–27 January. An adult Drake, reported by my falconers as about the Massan jheels.

Phalacrocorax carbo (L.).

The Cormorant does not breed in Jhang District. Occasionally flocks appear on the river from December to February, and I have seen a flock pass over the Civil lines on 8 October,

1918. A single Cormorant was circling over the Civil lines on the evening of 8 July, 1919.

Phalacrocorax javanicus (Horsf.).

In 1918 one was seen near Chund bridge on 24 May, and two more in the same locality on 13 August.

Anhinga melanogaster Penn.

One was seen at Nurpur Escape on 19 December, 1918.

Podiceps ruficollis capensis Salvad.

The Little Grebe is rather scarce in the district, and I have only observed it occasionally from December to March. It may, however, be resident at Nurpur Escape.

Columba livia neglecta Hume. (1 skin.)

An abundant and generally distributed resident. The single skin prepared, shot by Ticehurst from the Chund bridge, belongs to this race, to which he refers all other Punjab specimens examined.

Columba eversmanni Bp. (1 skin.)

Eversmann's Stock Dove was observed somewhat erratically in flocks in December, January, and March; large numbers were also seen coming to drink at Chund bridge on the evening of 1 April, 1919, in company with flocks of the last species; these were probably birds on passage, as no other evening flight was seen in that locality.

Streptopelia senegalensis cambayensis (Gm.). (2 skins.)

A common and generally distributed species and in the main resident, though there were some signs of its being partially migratory and more abundant in summer. On the Yakkuwala Hills it is the chief inhabitant.

Streptopelia decaocto decaocto (Friv.). (4 skins.)

Common, generally distributed, and resident, tending to collect together into flocks in winter.

Œnopopelia tranquebarica tranquebarica (Herm.).

With the exception of a single pair seen at Hassan Khan on 31 March, 1919, the Red Turtle-Dove was only noted as

a common summer visitor, arriving about the end of April (earliest dates 27 April, 1918 ; 26 April, 1919) and leaving early in August (latest dates 17 August, 1918 ; 13 August, 1919).

***Pterocles orientalis* (L.).** (1 skin.)

While this fine Sand-Grouse is common in suitable localities throughout the winter, it was most noticeable in 1917 and 1918 as a passage migrant in November, when flock upon flock were to be seen in the early mornings passing in a southerly or south-easterly direction. The return passage was not so marked. The earliest dates on which I have observed the species are 29 October, 1917 ; 10 November, 1918 ; 10 December, 1919. It was last observed as follows :—14 March, 1918 ; 21 February, 1919 ; 13 February, 1920 (a single bird). It was comparatively very scarce during the winter of 1919–20.

***Pterocles senegalensis erlangeri* Neum.** (1 skin.)

(= *P. exustus* auct.)

A common and generally distributed resident. On 4 April, 1919, I found a clutch of three eggs of this species at Kadirpur.

***Burhinus œdienemus astutus* Hart.** (2 skins.)

A somewhat scarce resident, observed only as follows :—

1917. 25 December. A party of three found on some waste plain at Pabbarwala ; they were easily taken by my Shahins.

1918. 23 December. A party of three in some bushes on the Skorkot plain.

1919. 25 May. A single egg taken on the sandy river-bed amongst tamarisk by the Rivaz bridge.

1919. 8 June. A single egg found in the same locality and probably laid by same pair.

The taking of these two eggs has been fully described in 'Bird Notes,' 1919.

***Esacus recurvirostris* (Cuvier).**

The Great Sand-Plover is to be found breeding commonly

along the sands of both rivers from April to June. It is in the main a summer visitor only, but on 28 December, 1918, I met with a party of four on a ploughed field in the riverain by tamarisk scrub not far from a channel of the river; three of these were successfully taken by my Falcons.

Cursorius gallicus gallicus (Gm.). (4 skins.)

The Cream-coloured Courser was only met with in winter from November (earliest dates 13 November, 1917; 30 November, 1918) until February (latest dates 28 February, 1918; 26 February, 1919; and 18 February, 1920). It frequently consorts with the next species. On one occasion I flew a Shahin Falcon at a party of three Cream-coloured Coursers on a wide plain, against the advice of my falconer, who said that it was impossible to take these Plovers. He was right. As soon as the Falcon was on the wing the Coursers rose, and they escaped her with the greatest ease, outpacing her and rising to a great height in the air.

Cursorius coromandelicus (Gm.). (1 skin.)

In winter this Courser is generally distributed in small numbers throughout the riverain area, to which it is more restricted than *C. gallicus*. I suspect that it is a resident species, although my records do not bridge the gap between April and August, as the areas that it inhabits are difficult to visit in the hot weather, and on 3 and 4 August, 1919, at Chiniot I saw a party of four birds, of which two appeared to be immature.

Glareola lactea Temm. (1 skin.)

A summer visitor to the rivers, where it breeds in colonies from April to June. The earliest date on which I have met it is 24 March, 1918, and the latest date is 28 August, 1919, when a flock of twenty to thirty birds was hawking over my garden in the evening.

Charadrius alexandrinus alexandrinus L. (1 skin.)

Only observed in the winter of 1918-1919, when a few were noted about the Chenab River in November and December.

Charadrius dubius jerdoni (Legge). (4 skins.)

The Little Ringed Plover breeds on the sand-banks of the rivers in May and June and probably also earlier. It is a resident species, but out of the breeding-season leaves the river areas and spreads throughout the district, visiting any small pond or flooded field. During April, August, and September they are occasionally to be found in the most unexpected spots, from which it is probable that the species is also to some extent migratory; but all the specimens obtained in the district belong to the same race.

Vanellus vanellus (L.).

The Peewit is a common winter visitor, arriving in November (earliest dates 11 November, 1917; 14 November, 1918), and leaving about the beginning of February (latest dates 12 February, 1918; 3 February, 1919; 31 January, 1920). In the abnormally wet winter of 1917-1918 the species was still abundant during the first week of February.

Chettusia gregaria (Pall.). (8 skins.)

The Sociable Plover is a fairly abundant winter visitor, and is to be found in flocks which usually feed in the wheat-fields. The earliest dates on which I have seen it are 1 November, 1917, and 18 November, 1918, and it remains until well into February (latest dates 20 February, 1918; 24 February, 1919; 17 February, 1920). A belated straggler in breeding-plumage was shot by me on a sand-bank of the Chenab River (an unusual spot for this species), near Jhang, on 7 April, 1919.

Chettusia leucura (Licht.). (2 skins.)

A winter visitor in small numbers, and only met with on the Nurpur Escape and the Massan jheels. Observed on various dates between 13 December and 29 March.

Sarcogrammus indicus (Bodd.). (2 skins.)

A common resident, most numerous about the canal areas, but during the breeding-season its numbers are apparently increased by an immigration of summer visitors. Eggs were found on different dates between 28 April and 6 July.

Hydrophasianus chirurgus (Scop.). (1 skin.)

Several pairs, doubtless breeding, were seen at Nurpur Escape on 25 July, 1919. It was not otherwise met with in the district.

Erolia alpina alpina (L.). (1 skin.)

On 12 January, 1919, I shot a Dunlin from a small flock of Dunlins and Little Stints near Chund bridge, and on 7 April saw a small flock of Dunlins on the river.

(Two very large flocks of some small Wader, probably of this genus, were seen flying up the river on 18 May, 1919, but they were too far distant to allow of identification.)

Erolia minuta (Leisl.). (2 skins.)

Erolia temminckii (Leisl.) (2 skins.)

Stints occur throughout the winter in small numbers from November onwards until their numbers are greatly increased by a rush of passage migrants in the latter half of March and in April. My notes do not show the separate status of the two species very satisfactorily, owing to the difficulty of distinguishing them in the field, but so far as I could ascertain, both birds have much the same status and occur throughout the period mentioned.

Philomachus pugnax (L.). (2 skins.)

A not uncommon spring passage migrant in the latter part of March and beginning of April. A flock of Waders, seen as late as 18 May, 1919, was perhaps of this species. A single bird was seen at Massan on 13 December, 1918. One flock was seen feeding on irrigated plough-land.

Tringa hypoleucos L. (1 skin.)

The Common Sandpiper arrives normally in the district about the beginning of August, although I have seen single examples as early as 14 and 27 July, 1919. It remains in varying numbers throughout the winter; the latest date on which it was seen was 1 May, 1918.

***Tringa glareola* L.**

(2 skins.)

The Wood-Sandpiper is an abundant passage migrant through the district, appearing from the end of March to the beginning of May in spring, and from the middle of July to the end of September in autumn. A few birds remain for the winter about the grassy jheels that suit their habits. During the migrations it is by far the most abundant Wader in the district.

***Tringa ochropus* L.**

(2 skins.)

The Green Sandpiper arrives in the district on the autumn migration about the middle of July and becomes fairly abundant in August. Many of these birds undoubtedly pass further on, but the species remains throughout the winter, plentiful in a wet season like that of 1917-1918 and scarce in a drought like that of 1918-1919. The return passage takes place about April, a few birds remaining on for the first few days of May. Occasional non-breeding birds are to be seen during the hot weather, as, for instance, when two were noticed on the river on 1 June. Small parties may be seen during the migrations, but for the most part the bird is solitary in its habits, and indifferent as to whether it feeds in some large, grassy jheel or on the sun-baked margin of a buffalo-wallow. It is not, however, very partial to the sand-banks of the rivers.

***Tringa totanus eurhina* Oberh.**

(5 skins.)

The Redshank is a common winter visitor to the district. In 1919 there were many about the flooded riverain near Chund bridge as early as 22 August, but these birds were probably passage migrants and passed on, as normally the species does not seem to be common until October. They leave early, as I have no satisfactory record of any being seen after February.

***Tringa erythropus* Pall.**

(5 skins.)

Large flocks of the Spotted Redshank, often mixed with ordinary Redshanks, occur about the river sand-banks in February and March, and smaller parties and individuals

may be met with at any time during the winter at any suitable jheel or pond from October to March. One was seen as late as 30 April in 1918, and five or six as early as 25 September in the same year.

***Tringa nebularia* (Gunner.).**

The Greenshank is a common winter visitor to the district, and may be found whenever looked for from the beginning of October to the end of February. In March it becomes less common, but occasional birds may still be seen in April. It is never entirely absent, as I have notes of single birds seen on 4, 7, and 28 April and 15 May, 1918, and on 18 and 25 May, 1 June, and 14 July, 1919; but these records probably refer to non-breeding stragglers rather than to early or late migrants.

The autumn migration begins early in August and continues throughout September.

***Tringa stagnatilis* (Bechst.).** (4 skins.)

The Marsh-Sandpiper was observed in small numbers during the spring and autumn migrations of 1919; that is to say, several were seen about the Massan jheels daily from 26 to 29 March, and a few were seen in the flooded riverain near Chund bridge on 22 August. Several were also noticed about the Massan jheels in December, both in 1917 and 1918. Its actual status requires further elucidation.

***Himantopus himantopus himantopus* (L.).** (3 skins.)

The Stilt appears as a not uncommon passage migrant in the first half of April and again in the second half of August and in September. Occasional birds are to be seen during the winter months. It is curious to note that both the specimens preserved—obtained on different dates—were only winged at my first shot, and yet both immediately continued feeding without any appearance of alarm.

***Limosa limosa* (L.).**

Single birds were seen in 1918 on 21 March at Pir Abdul Rahman jheel, and on 30 November near Chund bridge.

***Numenius arquata lineatus* Cuv. (2 skins.)**

A winter visitor to the riverain area from October (earliest date 13 October, 1918) until April (latest date 7 April, 1919).

***Gallinago gallinago gallinago* (L.). (3 skins.)**

The earliest date on which I have seen the Snipe in the district is 14 September, 1918, and the latest 6 April, 1919. Between those dates a few may be met with at any time in those localities, few and far between, which are suitable to the requirements of the species. About February and March their numbers increase, doubtless owing to the arrival from farther south of early migrants. Five to ten couple of Snipe would be a good bag for this district.

***Limnocryptes gallinula* (L.). (2 skins.)**

Earliest and latest dates for the Jack Snipe were 18 October, 1918, and 28 March, 1919. It is not as abundant as the last species, but may be met with throughout the winter. As in the case of the Common Snipe, there are signs of an immigration about February and March.

***Hydrochelidon leucopareia indica* (Steph.).**

In view of my observations at Jhelum (Ibis, 1901, p. 108) of the numbers of Whiskered Terns which pass along the Jhelum River from April until the first week in July, going to their breeding-ground in Kashmir, it is certain that this stream of birds must pass along the Jhelum River and the lower part of the Chenab River in Jhang District. In both years, however, I was unable to visit that area at the right time. No such migration was observed up the course of the Chenab River above its junction with the Jhelum, but a single Tern of this species was observed at the Chund bridge on 6 October, 1918.

***Gelochelidon nilotica nilotica* (Gm.). (2 skins.)**

The Gull-billed Tern breeds on the Chenab River within Jhang District, as was to be expected from the fact that the river Chenab at Wazirabad was the first recorded locality for its eggs in India (*cf.* Hume, N. & E., 2nd ed. iii. p. 304).

I did not, however, find the eggs until 1919, when from April to July several birds were frequenting the neighbourhood of the Rivaz bridge. It was clear that four or five pairs were settled on a small sand-bank just above the bridge, which was the breeding-place of *S. seena*, *S. albifrons*, *Rynchops albicollis*, and *Glareola lactea*, but for a long time I could not find any trace of eggs or young. On 1 June, however, I found a nest with one egg, and this nest, when visited again on 8 June, contained two eggs, which I took. These eggs measure 45×33 and 42×32 mm. The nest was a mere hollow, scraped in dry sand under the lee of a small pad-like plant which was growing on a hummock of sand in the middle of the sand-bank. I could find no more nests, unless a single unidentified egg belonged to this species; yet the various pairs of Gull-billed Terns were noisy and fearless, flying low over my head or sitting on the ground. They did not seem to have laid yet. I cannot help thinking, in view of the earlier dates of other Punjab nesting records, that this colony must have started to breed earlier in the season, but had lost its eggs through the washing-away of a sand-bank.

During the winter months this Tern is of a wandering disposition, although apparently not migratory in the strict sense, and may then be found along the canals or at any jheel or pond. The call is a sort of "Kik-kik-kik" in rather the tone of the Punch-and-Judy man.

***Sterna albifrons albifrons* Pall.**

(3 skins.)

The Little Tern is a summer visitor only to the district, where it breeds on the sand-banks of the Chenab (and doubtless of the Jhelum too). The earliest dates on which I have seen it are 4 April, 1918, and 7 April, 1919. Several clutches of eggs were taken between 18 May and 8 June from the same sand-bank as the eggs of *G. nilotica*. Here I found these little birds very pugnacious, chasing the other Terns, but at the same time very shy, flying round at some height and distance, so that it was with the greatest difficulty that I secured specimens. The call is a shrill sort of squeal,

easily distinguishable from the calls of the various other species which breed in the same area.

Twelve eggs taken yield the following measurements:—Length 29·5 to 32·5 mm., breadth 22 to 24 mm.; average measurement 30·8 × 23 mm.

***Sterna melanogaster* Temm.** (1 skin.)

The Black-bellied Tern breeds fairly commonly on the river sand-banks from March until May; it nests both in company with the colonies of other Terns and also solitarily. It is a resident species and, like the other Terns, wanders a good deal out of the breeding-season. Birds in the white-bellied stage of plumage were only observed in September.

***Sterna seena* Sykes.**

Breeds commonly on the river sand-banks about May and June, and is a resident species, wandering out of the breeding-season along the canals and to any patch of water. This Tern may often be seen travelling high in the air overland.

***Rynchops albigollis* Swains.**

The Scissorbill breeds on the river sand-banks from April to June, in company with the colonies of Terns. It is apparently a summer visitor only, as I have not seen it before 24 March or later than 6 October, 1919.

***Houbara undulata macqueeni* (Gray & Hardw.).** (1 skin.)

The Houbara Bustard is a common winter visitor to the district, which is in parts peculiarly adapted to its habits. It frequents three types of ground. Firstly, portions of the riverain area, as about Ahmedpur, where patches of cultivation, both wheat and pulses, alternate with stretches of sand and thickets of tamarisk scrub. Secondly, it is to be found in the "Budh" or ancient river-courses which crop up here and there in the district, as at Mochiwala; these are sandy areas, used for grazing camels, studded fairly thickly with stunted Jal-trees and thorny bushes, and usually surrounded by cultivation. Thirdly, and most commonly, it is to be found in the wide semi-desert plains, as those of Shorkot

and Khiwa, which stretch for miles—a waste of hard, sandy soil sparsely covered with small desert plants and wild Caper bushes, with here and there a tiny hamlet. In such plains patches of sand-dunes occur, and in their shelter a sunken field or two is cultivated. The neighbourhood of these little oases is generally a sure find for Houbara, rather than the general expanse of the plain. The main requirements of the bird are two—an area of barren ground, only disturbed by wandering herds, on which to spend the day, and cultivation in which to feed by night. The three types of ground described above, each in their own way fulfil these requirements. Unfortunately, the habit of visiting cultivation renders it fairly easy to capture Houbara, which are snared in nooses set round some waste-girt field. Birds caught in this way have been brought to me alive and uninjured.

The Houbara is seldom found solitary: a suitable area is usually frequented by several birds, perhaps a dozen in number, which, while they can scarcely be described as forming a flock, certainly keep loosely in touch with each other.

As is well known, the Houbara forms the finest quarry for the Peregrines and Sakers of the Falconer; but although I had some good sport in Jhang District with these birds, it did not compare with that formerly enjoyed about Hissar in the south-east Punjab. For at Jhang the quarry was by no means so abundant, and the areas of their occurrence not so easily accessible, the result being that the primary requisite for success in this difficult branch of falconry, viz. frequent and regular flights, was not fulfilled. The native falconers of the district seldom hawk the Houbara with success, their knowledge of any but short-winged Hawks being small.

The earliest date on which I have seen the Houbara in the district is 6 October, 1918; it is most abundant from November to the end of January. A fair number remain into February, and the latest date on which I have met the species personally is 24 February, 1919; according to native testimony a few birds are to be met with until the middle of March.

***Anthropoides virgo* (L.).**

During the spring of 1918 I was for the first time privileged to see the famous migration of the Cranes.

It is perhaps most easily described by extracts from my diary :—

- 8 March. Two long lines of Cranes flying northward over the Police lines.
- 23 March. Gahr Maharaja : about 200 Cranes seen flying in a north-easterly direction up the river in the evening at an enormous height ; they were in an immense tangled skein, exhibiting every formation ; occasionally one or two birds were calling.
- 24 March. About 10 A.M. some 500 Cranes were seen to rise from a distant sand-bank on the river : the majority rose into the air and circled in an immense cloud at a great height until they finally disappeared from view. The remainder did the same in smaller, disconnected groups.
- 27 March. Shorkot. A large flock flew over in a north-westerly direction.
- 31 March. Jhang-Maghiana. About 2 P.M. a flock of about 100 Cranes passed over my house, "swirling" in the air and gradually moving in a northerly direction. Occasionally a bird would call.
- 1 April. About 2 P.M. some 200 Cranes were "swirling" high over Maghiana, and then started off in a north-westerly direction in small parties and groups of chevrons. Then about 3 P.M. I heard more Cranes calling, and went out to see a stream of Cranes at an immense height following the same line as the previous flock. They were big flocks, small parties, chevrons, and odd birds extending in one line of flight as far as the eye could reach. As I watched, the leading flock commenced "swirling" until some of the following parties joined it, and then they started off again, following the original route. About 4.30 P.M. I again heard Cranes calling, and in the evening I saw a couple of flocks flying in the same line but rather lower. The servants reported that after dark they could hear Cranes calling.

- 2 April. Again about 2.30 P.M. a large number of Cranes were seen circling over until joined by following parties, when all started off in the same direction. They were very noisy and flying fast at a great height.
- 3, 4, 5 April. Small parties were seen at different times following the same line but flying rather lower.
- 7 April. Two flocks seen in the evening following the same route, but flying more in a skein of long lines.

Next spring I was naturally on the look-out for a similar migration, but was disappointed; only a few flocks were seen flying north-east on 27 and 29 March and 1 April.

It is probable that their route for some reason had shifted farther west, for Mr. A. A. Phillips, I.S.R., wrote to me from Kundian (Mianwali District) on 27 March, 1919, as follows:—

“Just a line to give you a note *re* the Cranes on migration here at present. I have noticed a number about lately, but did not really observe them until the 23rd of March. That day we had a strong south wind. Flock after flock came flying low from the desert here, where they had apparently been feeding on the gram. On reaching the neighbourhood of my bungalow they started rising, and wheeled right over the bungalow to 1000 ft. or so elevation and then headed off due north. This went on all the morning. Since then we have had north winds, and I have not seen any migrating. I think those I saw on the 23rd March were mostly Common Cranes. Since then I have seen a good number from my bungalow out in the desert, and on the 25th of March C. and I went out after them. They were a sight worth seeing and hearing. There seemed to be vast divisions of them about, but we only shikared one division: while they were feeding on the ground there was a broad band of them for about $1\frac{1}{2}$ miles. When alarmed they bunched together and looked just like a white pebble beach about 100 by 500 yds. in extent, and when they rose the noise was just like the roaring of the sea. We shot three, which were all Demoiselles. The vast majority of those we saw were Demoiselles, but I saw a few Common Cranes also. I have not been out again since, but I have not

seen many about; either they have shifted their feeding-grounds or migrated."

The return migration of birds flying along the same line but in a reverse direction was noticed in September of both 1918 and 1919; the numbers seen, however, were nothing like so large as on the spring migration described above.

It is a matter of great regret to me that I was quite unable satisfactorily to identify the species of Cranes seen thus migrating, but they were, I think, of this species.

The Demoiselle Crane is, at any rate, met with in fair numbers throughout the winter, and is generally distributed.

***Megalornis grus grus* (L.).**

Observed in fair numbers as a winter visitor from October until February. They appear, however, to be less numerous than when Hume made his trip down the Jhelum and Chenab rivers.

***Porzana porzana* (L.).**

(1 skin.)

I shot a male Spotted Crake from a marshy patch of rush-grass at the end of a channel in the neighbourhood of Massan on 8 February, 1918. Another Crake flushed from the reeds of another channel on the same ground on 7 December, 1919, was also apparently of this species.

***Porphyrio poliocephala poliocephala* (Lath.).**

(2 skins.)

A few Purple Coots were observed in 1918 only, as follows:—

8 February. One was flushed from some reeds in a channel at Massan where I was hawking Duck, and was promptly killed by the Peregrine which was waiting on above me for more legitimate quarry.

20 November. Two seen at Nurpur jheel.

30 November. One was found sitting in a Shisham-tree by the Chund bridge, and being driven out with difficulty, was taken by one of my trained Shahins, which it fought desperately.

14 December. One seen by Ticehurst at Massan.

19 December. One seen at Nurpur jheel.

Gallinula chloropus chloropus (L.). (1 skin.)

The Water-Hen occurs in fair numbers on the larger jheels and ponds, such as Pir Abdul Rahman, Nurpur, and Pabbarwala, where I have seen it in December, January, and March. It must, I think, be only a winter visitor, as Pir Abdul Rahman jheel usually dries up in the summer months, and I could find no Water-Hens at Nurpur in the month of July. One was brought to me alive on 8 May, 1918, which had been caught in the District Board garden at Jhang. This was clearly a migrating bird, as no suitable pond for the species is to be found for miles around.

Fulica atra L.

The Coot is common on the Nurpur Escape jheels in winter, where I have seen it in December, January, and February. None were to be seen there on my visiting the place in July, so I presume that it is a winter visitor only. Two were seen at Massan on 21 November, 1917, and a few at Pabbarwala jheel on 24-25 December of the same year; but none were afterwards seen in these localities.

Fracolinus francolinus asiæ Bp. (7 skins.)

The Black Partridge is a resident, and is found in fair numbers, though nowhere particularly abundant, throughout the riverain area. It does not occur in the other parts of the district.

Fracolinus pondicerianus interpositus. (2 skins.)

A resident, and generally distributed throughout the district, in some places being fairly numerous.

Coturnix coturnix coturnix (L.).

The status of the Quail in this district appears to be very variable. During the winter of 1917-1918 it was found in fair numbers from the beginning of November until the end of March. One was seen on 7 May. Some appeared in September 1918, doubtless on passage; but after that I did not meet with it until February and March 1919, when there were again a few about on the return passage. Two or three

were next seen in September 1919, but no more were met with that winter until 9 March, 1920, when I saw a single one being chased by a Lugger Falcon.

Some Quail must undoubtedly breed in the district, as I received a clutch of four stale but unincubated eggs in May 1919 from some Sansis at Shorkot, who had been told to search for eggs of Sand-Grouse. In the neighbouring district of Lyallpur, Major Lindsay Smith records the Quail as breeding freely in April and May (Journal Bombay N. H. S. xxii. p. 200).

XXIV.—*Additional Notes on the Japanese species of Oceanodroma.* By NAGAMICHI KURODA, Rigakushi, F.M.B.O.U.

VISCOUNT Y. MATSUDAIRA, M.O.S.J., has recently sent me some examples of the Japanese Petrels of the genus *Oceanodroma* for identification. One of them is an apparently new addition to the Japanese avifauna.

I express my sincere thanks for the kindness of Viscount Matsudaira.

Oceanodroma leucorhoa leucorhoa (Vieillot).

Procellaria leucorhoa Vieill. *Nouv. Dict. d'Hist. Nat.* xxv. 1817, p. 422: Maritime parts of Picardy, France.

Leach's Petrel is found in the north Atlantic and north Pacific Oceans. It was recorded from the Kuril Islands as a breeding bird* and has been obtained off the Japanese islands of Yezo or Hokkaido †. It has also been recorded in the Pacific Ocean off the coast of Japan as a migrant ‡.

Dr. Oberholser ‡ mentioned that the examples from the

* Blakiston and Pryer, *Ibis*, 1878, p. 212; Oberholser, *Proc. U.S. Nat. Mus.* vol. lvii. 1917, p. 166; Hartert, *Vög. pal. Faun.* ii. 1920, p. 1414.

† Godman, *Monogr. Petrels*, vol. i. 1907-1910, p. 9; Hartert, *l. c.* p. 1414.

‡ Kittlitz, *Denkwürd. Reise Russ. Amer. Mikrones. und Kamts.* vol. ii. 1858, p. 191; Oberholser, *l. c.* p. 166.